MONTHLY REPORT

[redacted]

25X1

PAR 224

24 Dec 64

SUBJECT: 3 - 15X Fluid Gate Enlarger

TASK/PROBLEM

1. Develop and fabricate an enlarger having continuously variable magnification from 3 to 15X for 70mm negative gate size. Print sizes to range 40 x 40 inches on cut sheet stock.

DISCUSSION

2. This project is proceeding in close correlation to the work on PAR 202. Work on these projects during the period has been on the following breadboard equipment:

a. Vacuum Platen Carriage: The design layout of the platen drive and position indicator was completed.

b. Main Frame: Detail drawings for the lower frame assembly including the shock mounts are completed. The drawings of the optical frame are complete except for interface designs with the objective lens focus assemblies, the lamphouse assemblies and the platen drive assembly.

c. A rough breadboard test was made of a four-inch square vertical fluid gate. By using rectangular glass plates to form the gates and placing the plates in contact along the bottom edge with the top edge open before injecting immersion fluid, successful wetting of the full gate area was achieved.

d. Work continued on layouts of the condenser and lamphouse assembly.

e. Preliminary design studies were made on the projection lens focus assemblies.

f. Model fabrication of the X-Y Coordinate indicators was nearly completed.

g. Authorization was given for fabrication of sample lens (for PAR 202) of the 24X to 40X "combination" lens design and of the 38X to 62X black-and-white lens design.

Declass Review by NGA.

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PLANNED ACTIVITY

3. Effort in the next period will be to:

a. Revise and test the computer program for the focus and magnification table.

b. Complete the objective lens designs and begin sample fabrication.

c. Continue the release of parts of the breadboard model for fabrication.

d. Continue layout work on the lamphouse and objective focus assembly designs.